What is claimed is:

1.   A library device comprising:

a cell array which consists of an array of multiple cells each of which contains one of multiple cartridges each containing a storage medium;

media drives in which the cartridges are removably mounted and which access the storage medium contained in the cartridges;

a robot which transfers the cartridges between the cell array and the media drives; and

a control board which controls operation of the library device, being equipped with a first memory which stores control information needed to control the operation of the library device, rewritably in a non-volatile manner,

wherein each of the cartridges contains the storage medium and comprises a second memory which stores information rewritably in a non-volatile manner,

wherein the robot is equipped with a memory reader/writer which accesses the second memory installed in the cartridge received by the robot, and

wherein one of the multiple cartridges is a diagnostic cartridge for the library device and the second memory installed in the diagnostic cartridge stores backup information which is the same as the control information stored in the first memory.

2.   The library device according to claim 1, wherein:

the first memory stores, as part of the control information, ID information which represents the library device; and

upon power-up, the control board judges whether the ID information stored in the first memory represents the library device, and if the ID information stored in the first memory does not represent the library device, the robot takes the diagnostic cartridge out of the cell array, reads the backup information out of the second memory installed in the diagnostic cartridge, and sends the backup information to the control board, and the control board writes the backup information received from the robot into the first memory.

3. The library device according to claim 2, wherein:

the library device comprises a serial label which contains ID information representing the library device and the robot comprises a first sensor which reads the serial label; and

upon power-up, the robot reads the serial label using the first sensor, extracts the ID information from the serial label, and sends the ID information to the control board, and the control board checks the ID information received from the robot against the ID information stored in the first memory, and thereby judges whether the ID information stored in the first memory represents this library device.

4. The library device according to claim 3, wherein:

the cell array has, over a plurality of locations, cell flags which are marks used to recognize locations of the plurality of cells composing the cell array, the robot comprises a second sensor to detect the locations of the cell flags, and the first memory stores, as part of the control information, location information about the cell flags detected by the second sensor or location information about the cells corresponding to the cell flags detected by the second sensor; and

upon power-up, if the two pieces of ID information do not match, the robot detects the locations of the cell flags using the second sensor and sends the location information about the cell flags to the control board, the control board finds location information about the cell containing the diagnostic cartridge based on the location information received from the robot, and the robot takes the diagnostic cartridge out of the cell containing the diagnostic cartridge by moving according to the location information, found by the control board, about the cell containing the diagnostic cartridge.

5.   The library device according to claim 1, wherein the cartridges contain magnetic tape as the storage medium and the media drives access the magnetic tape contained in the cartridges.

6.   The library device according to claim 1, wherein the second memory installed in the cartridge and the memory reader/writer installed on the robot communicate with each other wirelessly.

7.   The library device according to claim 3, wherein the serial label is a barcode label which uses a barcode as the ID information about the library device and that the first sensor reads the barcode recorded on the barcode label using a one-dimensional array of light-sensitive devices.

8.   The library device according to claim 4, wherein the first sensor combines the second sensor.